

Remarks

The specification has been amended at page 6 to correct a typographical and a grammatical error. The abstract has been amended to remove the words “comprises” and “comprising”, objected to by the Examiner.

Claim 1 has been amended to make a first reference to “a desired resource” followed by a second reference to “the desired resource”. Claim 1 has also been amended to define the invention more clearly by characterizing the structure as “containing” (rather than “comprising”) the resource and by reciting that the hierarchical control information is generated using the resource-specific information.

Claim 5 has been amended to recite that the data modeling schema “describes” (rather than “comprises”) relations between data stored in one or more resources. The term “describes” is believed to be more suitable here and corresponds to the term used in the paragraph bridging pages 4 and 5 of the specification.

Claim 9 has been amended to claim a “program storage device”. Claims 10 and 11, dependent on claim 9, have been amended accordingly.

Objections to Specification

The Examiner has objected to the abstract for containing the “legal” terms “comprises” and “comprising” on lines 2 and 3 (paper no. 5, ¶ 2). Applicants have amended the abstract to change “comprises” on line 2 to “includes” and “comprising” on line 3 to “containing” (matching a corresponding change to claim 1).

The Examiner has also objected to claim 2 for containing a misspelling “preformer” (page 2, ¶ 3). Claim 2 has been amended to read “performer” as was originally intended.

Rejection under 35 U.S.C. § 101

The Examiner has rejected claims 9-11 under 35 U.S.C. § 101 on the ground that the “computer program” to which they are directed constitutes non-statutory subject matter (page 2, ¶ 4).

Applicants have amended claim 9 so that it is directed to a “program storage device”. As amended, therefore, claim 9 is similar to claim 12 (to a “computer program product”) in that it is directed to a tangible medium or substrate containing a program rather than the program itself. Accordingly, this ground for rejection is believed to be obviated.

Rejection under 35 U.S.C. § 102

Claims 1-12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the published U.S. patent application (2002/0120685) of Srivastava et al. (“Srivastava”) (pages 3-4, ¶ 5). This rejection is respectfully traversed.

All of the claims under rejection depend, directly or indirectly, on claim 1. As defined in claim 1 as amended, applicants’ invention relates to a method for providing access to resources (32, 33, 34). In accordance with the invention, physical and/or logical parameters required for locating a desired resource are defined, and resource-specific information (e.g., an XML schema) is read from a resource-specifying source (42, 44) specifying a structure containing the resource. Hierarchical control information (10) reflecting the structure is generated using the resource-specific information, and access to the desired resource is enabled by calling a resource access performer (30) with at least one of the parameters and evaluating the control information. By handing off the actual resource access to the performer in this manner, the present invention allows a resource to be accessed without modifying or recompiling a user program, even if a resource or attribute has been added or modified.

Srivastava describes a system for dynamically invoking remote network service providers 115 (Fig. 1). A separate service definition (SD) for each given data resource is stored as an XML service descriptor 125 in a services registry (SR) 121 [0008]. Service descriptors are stored hierarchically in a service descriptor tree according to the categorization of the services defined

by service administrators [0329]. An OutputAdaptor 413 (Fig. 3) transforms the raw response returned by a service provider 115 into a ServiceResponse structure that is defined in an XML schema specified by the service descriptor [0290] [0292].

Srivastava thus describes something resembling Web services, in which one is concerned with accessing network services using existing descriptions of those services that are stored in a service registry. Srivastava is not primarily concerned with creating those descriptions in the first place, nor is he concerned with accessing a resource that is part of a hierarchical structure.¹ In the language of applicants' claims, Srivastava does not read resource-specific information from a resource-specifying source specifying a structure containing a resource, nor does Srivastava generate hierarchical control information reflecting such structure using the resource-specific information.

The Examiner has noted that Srivastava stores service descriptors hierarchically according to the categorization of the services as defined by service administrators [0329]. However, this hierarchical structure is that of the service descriptor database 121 (Fig. 121), not that of the resources being accessed, the network service providers 115. This contrasts with applicants' system, in which the resources being accessed may be include such items as a user group management file in a UNIX directory system or an entry in a Windows registry (page 11, lines 4-9).

Accordingly, Srivastava does not anticipate, nor does it even suggest, the subject matter of claims 1-12 as amended. The Examiner's rejection of the claims on this reference is therefore untenable and should thus be withdrawn.

Claim 2 is further believed to distinguish over Srivastava by virtue of its recitation of the step of "automatically triggering a semantic evaluation of the contents of a resource desired to be updated when said resource is referenced in calling said resource access performer" (page 6,

¹ Srivastava describes an update feature [0087], but this merely updates a service description on the basis of information obtained from the original service provider. Further, while the reference refers to XML schemas [0010], including with semantic mapping [0113], those schemas and mappings are used for purposes such as validating

lines 25-26). As noted in the specification, this allows for consistent updates when there are interdependencies between related data, and is of particular importance when the same resource is shared between a plurality of operating systems or generally when the data is distributed over a plurality of locations in a network (lines 26-29). By contrast, the referenced portions of Srivastava are simply inapposite: [0290] describes the structure of a service response, not the resource itself, while [0306]-[0308] describe the structure of the service registry, not that of the services being provided.

Claims 4 and 5 dependent thereon are additionally believed to distinguish patentably over Srivastava by virtue of the recitation in claim 4 that the hierarchical control information is defined in a data modeling schema comprising simple data types and at least one composition method for recursively constructing complex data types.

The schema referred to in Srivastava at [0113] is the XML schema, which is a well-known way to define the syntax of XML documents and is in fact referenced at pages 2-3 of applicants' specification. However, it doesn't contain a composition method for recursively constructing complex data types, as recited in these claims.

Claim 5 as amended is additionally believed to distinguish patentably over Srivastava by virtue of its recitation that the data modeling schema describes relations between data stored in one or more resources. Srivastava describes at [0013] the encapsulation of access to a resource by means of a standard programming interface, presenting different resources in a similar manner. However, this does not describe the relationship between data stored in one or more resources, as claimed by applicants.

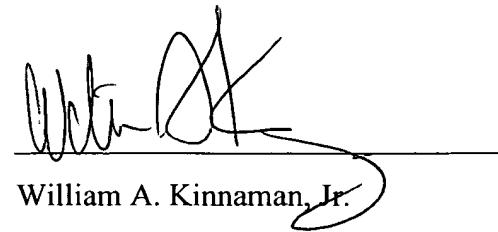
service descriptions [0159] or the like rather than for generating hierarchical control information reflecting a resource-containing structure as claimed by applicants.

Conclusion

Reconsideration of the application as amended is respectfully requested. It is hoped thus upon such consideration the Examiner will hold all claims allowable and pass the case to issue at an early date. Such action is earnestly solicited.

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